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ABSTRACT

This paper reports on an interpretive study of block play in a class of 16 kindergartners. Over the course of a school year 16 hours of videotape of the children's block play was recorded and analyzed. A typology of block play with four domains of block construction, social interaction, negotiation, and scheme development is explained and discussed. Data from the study indicate that young children arrive at school with a wealth of prior knowledge which is vastly more complex than the suggested kindergarten course of study found in public schools. The study suggests that there are at least two different agendas at work in the classroom, one usually associated with the classroom teacher, whose primary concern is directing the curriculum and instruction, and another associated with the children, whose main concern revolves around social interaction and construction of personally relevant knowledge. (MDM)

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ED 362 330

Block Play in Kindergarten: A Naturalistic Study

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BLOCK PLAY IN KINDERGARTEN: A NATURALISTIC STUDY

Abstract

The paper reports an interpretive study of a kindergarten class involved in the block center. Unobtrusive video taping and analysis of transcribed tape segments were the research methods used in the study. Data for the study were collected over a school year and included 16 hours of videotape of the block center activity.

The paper describes a Typology of Block Play with domains of Block Construction, Social Interaction, Negotiation and Scheme Development. Each domain emerged from the grouping of coded language and action from the transcribed episodes. The conceptual maps, seen as Figures 1-4, illustrate the complexity of block play found in this kindergarten classroom. The themes used by the children in each of the six episodes are discussed.

Data from the study indicates that young children arrive at school with a wealth of prior knowledge which is vastly more complex than the suggested kindergarten course of study found in public schools. The study suggests that there are at least two different agendas at work in the classroom. One usually associated with the classroom teacher directing the curriculum instruction and another associated with the children whose main concern revolves around social interaction and construction of personally relevant knowledge.

Block Play in Kindergarten: A Naturalistic Study

It was the laughter, action, and dedication to their projects which drew attention to the children at the block center. In the block center, the children demonstrated the social skills and attention spans which did not appear during the teacher-directed activity of the classroom. There was diversity in the themes which were played out. Small groups emerged as building partners. The mutual interest in the themes appeared to foster a closeness among the participants which permitted verbal give and take. During block play young children reveal the complexity of peer interaction (Wilkinson, 1982) in the context of their own play (Corsaro, 1986). It appeared this center activity provided the vehicle for kindergarten children to develop social and verbal competence through negotiations of a commonly understood themes.

Kindergarten has become the initial step of primary education in public schools. Developmentally appropriate practice (Bredekamp, 1987) has become the standard by which all classroom instructional material and lessons are to be judged. However, given the reality between theory and some teachers' practices, a dilemma for this teacher focused on the continued philosophical differences between herself and other experienced teachers. Due to the downward shift of the curriculum to include kindergarten in the formal academic instructional program, it became obvious to this teacher that the developmental nature of young children

was being disregarded. That is, their curiosity, interests and desire to learn personally relevant material were being ignored because of a belief in the overriding importance of the traditional curriculum and its identified scope and sequence. But this falsely assumes that the content of the traditional curriculum must be taught using the traditional methods. This study demonstrates that the goals of the traditional curriculum need not be incompatible with the methods of developmentally appropriate practice. Young children possess ability, not usually appreciated, that allows them to work out relatively sophisticated ideas for themselves in cooperation with their peers, when they are in an environment conducive to doing so.

Sample

The data was collected in a full-day, kindergarten found in the suburban, middle-class, public school district of a large southeastern city. Thirteen white children were assigned to the class--eight boys and five girls. All the children met the state requirement for entrance in public kindergarten. The class was formed using random assignment by the school principal. All the children had previous experience in group settings either in preschool or daycare. Each child lived in a single family home with two parents. None of the children qualified for reduced lunch. As part of this public school, the class members participated in all school-wide instructional support including a separate instructional period for: art, music, physical

education, counseling and enrichment each with an appropriately certified instructor. In addition, three of the class members received the service of the speech therapist. None were identified as special educational students.

Methodology

A qualitative design was used to describe the activity and conversation of the block center. Symbolic interaction theory (Blumer, 1969) provided the explanations about how individuals develop socially as a consequence of interacting with other members of society. The purpose of the study was to describe the content of kindergarten block play to determine the natural processes used by young children at different stages of development to effectively interact. It was also the intention of the teacher/researcher to demonstrate the naturally complex nature of block play (Pratt, 1948) allowing young children to engage in meaningful interactions involving themes of their choice that were personally interesting to them. Using the themes which were naturally generated by the children, these kindergartners demonstrated the ability to work compatibly in a variety of groups (Parten, 1932).

Unobtrusive videotaping of block play during center time in the classroom was conducted at the beginning, middle and end of the school year 1988-89. Taping lasted approximately forty-five minutes per day. Ten days of taping resulted in six hours of block play yielding a full taping segment (beginning, middle, or

end). At least two weeks separated videotaping segments. A purposeful sampling (Bogdan & Biklen, 1982) of each of the three videotape segment identified two episodes per segment which formed data for six episodes. An episode was identified as taped a sequence period in which children: initiated play, built the structure, dramatized the subject, and formally concluded play. No existing classroom requirement dictated participation in the block center. However, of the thirteen children in the class, eleven were participants in the identified episodes used as data.

Analysis

Videotaping permitted the researcher to observe selected episodes repeatedly, allowing for careful attention to detail in action, movement and language, both in the inflections and tones of the participants. Transcripts were made of each episode, including both the language and actions of the block play participants. A three-step inductive process was used in data analysis. First, the transcripts were coded for the action and language used by the children. An inter-rater was used to verify the appropriateness of the codes selected by the researcher. Second, the codes were grouped into broader content categories forming a Typology (Geotz & LeCompte, 1984) of Block Play. Finally, the themes or subjects which the children rehearsed in dramatic play were identified. These themes provided glimpses into the culture of these kindergarten children and their

emerging knowledge of the world around them.

Typology of Block Play

The Typology of Block Play is conceptually mapped as: Block Construction allowing the complexity of Social Interaction, Negotiation and Scheme Development to emerge from the episodes. Others have examined block play and identified the types of blocks and social behavior used by young children in block play (Rogers, 1982). The focus of this study was to describe what specific block constructions were represented (Piaget, 1929) and what themes were of significance to this group of young children.

Block Construction

Six distinctively different structures were constructed in these episodes. Each representation could be difficult to identify without the accompanying support provided by the chosen theme, for without knowledge of the purpose of the structure little understanding can be gained from the structure alone. The process of Block Construction is illustrated by Figure 1. Each episode followed the process of block construction through its basic features of: establishing the play area, structure construction with block selection and placement supported by division of labor and its aspects of verbal interaction and action, ending with the structure's demolition by the participants concluding the dramatic play. No single pattern was used by the children to accomplish the construction but a variety

of avenues were used by the children, dictated by the chosen theme and the individual children involved in the construction.

This class had one solitary builder, willing to play alone. The rest of the class gained enjoyment from the social contact with peers and would search out specific, desired building partners when initiating block play. Action provided opportunities to learn construction techniques through student demonstration, direction and observations. Through the variety of social participation (solitary, parallel, cooperative and on-looker) block construction was completed. The children would complete their construction by adding other objects/props to their structures such as Fisher-Price toys, as dictated by the dramatic play requirements of the emerging story line.

Social Interaction

The process of Social Interaction conceptually mapped in block play is illustrated in Figure 2. All children participate in block play through the types of social participation first noticed by Parten (1932). From the most restricted (on-looker) to the most inclusive (cooperative), children's roles in block play are motivated by the individual's desire to participate. Social Interaction in block play begins with the initiation of the interaction. Agreeing to play, followed by the choice of a theme, is basic to Social Interaction for agreement is necessary for play to continue. Once the theme has been agreed to, division of labor naturally follows. It is this division of labor which

propels children into such roles as architect, builder and assistant or go-for which directly reflects the individual's ability to socially interact around the chosen theme. Through verbal interactions centered on the chosen theme and actions, participants are given the opportunity to expand and refine their knowledge of the theme and their ability to socialize with their peers. Socializing was continuous as part of block play and concluded only when the structure was demolished.

Negotiation

Negotiation was the vehicle which extended the block play once a theme was chosen among the children. Figure 3 illustrates the conceptual mapping of Negotiation found in this study. The children engaged in negotiation from the initiation of their block play to its conclusion with the structure's destruction. It was very straight forward for these children to either accept the invitation of others or simply to reject it. Followed closely by the choice of theme, block construction would ensue. It was negotiation which determines the direction of the block construction. Block construction was a meticulous negotiation between the architect and others who worked together to build the representational structure. Once the structure was completed to the satisfaction of all participants, it was the dramatic play which drove the continuation of play. The children shared their understanding and knowledge of the chosen theme to create a story line which was accepted by all participants. The story lines were

simple enough for a variety of possibilities. It was when disagreements occur that the individual ability to negotiate through to resolution was demonstrated. It was the pre-operational mind of the kindergartner that was revealed in the resolution strategies employed. Resolutions are worked out through verbal strategies including: information given, questioning, agreement/disagreement, suggestion/alternate suggested; or non-verbal actions including: demonstration, direction, or observation. It was the obvious desire of the children for play to continue as they worked to resolve their problems. Conclusions were negotiated revealing the power of persuasion even among kindergartners.

Scheme Development

Scheme Development demonstrated the understanding and knowledge of the world which the children possess. Figure 4 illustrates the conceptual mapping of the episodes of the study. Each episode was uniquely structured to demonstrate the children's understanding of the chosen theme. The common sequence of this aspect of block play included: choice of theme; block selection/placement consisting of verbal interactions, action, and dramatic play; theme development as dramatic play involving individual roles and plot; and finally, theme conclusion resulting from a disturbance in the plot sequence and/or the destruction of the block structure.

Themes

Episode 1 "Battleship" [An episode involving a more knowledgeable peer]

The story line of Episode 1 was a young boy's representation of the most impressive aspect of his vacation. "B" built a replica of a commissioned US battleship which is anchored at a southeastern port. The structure was constructed in such a way as to suggest that the child was on/or surrounded by the flight deck. This episode contained group construction whose chief

architect was abandoned by the others upon completion of the structure due to his dictatorial nature. The solitary play by "B" drew the interested attention of another young child, "L". "B" did not encourage other participants and it was only due to the persistence of the other child, "L", that dramatic play ensued. "L" demanded to be part of the play through a series of actions which drew attention to her presence including the exact duplication of "B" 's song, the words of which are:

> "Fire missile into the water so we can get a submarine."(p.1,l.39-40)

"B" (a boy) allowed "L" (a girl) to play, as she mirrored his moves around the structure, demonstrating "B" 's competency and "L" 's respect for it, both of which were reciprocated by the end of the episode. Through his actions and verbal descriptions, "B" taught "L" his understanding of "Battleship". This episode provided a glimpse of how a more knowledgeable peer led a less experienced peer toward the understanding of a battleship

(Vygotsky, 1978). This ship could shoot missiles to ward off a submarine, while at the same time being host to several airplanes landing on a variety of Battleship locations. Some of these landing locations were realistic, by allowing runway room, while others were unrealistic for planes, though representational ones made out of blocks could be "landed" (i.e., placed) on them. "B" also employed a verbalization which was a sound used to represent "laser" obviously trying to destroy on-coming submarines. "L" could not determine the location of these submarines due to the random pattern of shooting of the laser by "B". By asking the question of "B":

> "Where are the submarines?" (Ep.1, pg.2, 1.53)

"L" was able to temporarily break the dramatic play spell. "B" looked at "L" and giggled. rubbing the carpet near the Battleship and responding:

> "Submarines? Submarines are under water, under water, under the rug" (rubbing his hand or the carpet). See, under the rug." (pg.2-3, 1.55-03).

The episode ends with "L" directing the action of colliding submarines, triangular blocks, ending with the "Whoosh!" and laughter.

Episode 2 "Garage" [An episode involving shared experience]

The story line of Episode 2 involved five boys creating a parking "Garage" (Forys & McCune-Nicolich, 1984). One group of three boys was primarily responsible for the construction of the garage while the second group of two was responsible for the

parallel play of the "Runaway Car". All of the children were included in the dramatic play which illustrated a variety of understanding of garages based on their individual prior knowledge. In the community, the children had visited shopping malls with parking garages of multiple floors. Two of these boys have mothers who work at local hospitals where helicopters land on top of the parking garage with injured patients. This knowledge is coupled with their personal knowledge of the structure of their homes. Some of the boys live in homes possessing garages under the house or attached along side the dwelling. It was the variety of knowledge which contributed to the initial differences between "Br" and "A" concerning the basic construction of the "Garage". "A" begins the discussion during the construction, informing the other two boys:

"There's a car inside."

"M" replied, "It's a garage".

"Br" agrees, "I know."

The boys share information about garages during the construction. Two boys, from the group of five, break away from the primary construction to begin a secondary, parallel play involving a "Runaway Car". The first construction runs into difficulty as the boys try to roof the "Garage". The problem centers on the helicopter's being able to be 'covered' by the roof, yet realistically functional. "A" and "Br" restrain "M" from going through with his attempts to operate the helicopter in a manner similar to backing a car from the garage. Much of the discussion

was spent trying to come to a resolution of this conflict. The children were highly motivated to continue the play pausing briefly as "A" brought to the block area a feel-me-box, and the attention of the boys was re-directed to the contents of the box. Once the contents were examined, the boys began play driving cars into and through one entrance of the "Garage". As this play continues, "Bd" sends a Fisher-Price car down a pegboard slope, used as a ramp, propelling the "Runaway Car" into the "Garage". The moment of impact brought attention of all players to the possible disaster. Due to the sturdy construction, the "Garage" wall was not destroyed. The children marvelled at the resulting crash!

"It is our building. It didn't even break. This building, it's strong!" (p.4,l.18-21).

The children directed their attention toward the teacher, to determine if the play would be permitted to continue. When the teacher smiled and did not interfere, the play continued. The "Runaway Car" was attempted from another direction, but totally missed the structure. The play was interrupted by the entrance of an educational specialist. Upon seeing her, the children knocked the block structure and it fell ending the play.

Episode 3 "Jail Break" [An episode involving peer power]

Episode 3 brought three girls together to build a jail and dramatically play mothers and kids in the "Jailbreak". Two girls used blocks to make a double rectangle, the inner one being the

jail. The girls allowed the mothers to take their cars with them to jail. Fisher-Price toy cars and people were the props used by the girls as the mothers/kids and cars of the story. It should to be expected that these children would see cars as a necessary commodity, given the near total lack of public transportation available in their community.

"Bv: They keep their cars in there. They just have to get out of them. So, so they won't get out." (pg.3,l.34-36).

The two girls, "Bv" and "H", did not spend as much time as the boys in block construction and used monologues to continue the play through a story. "H" announced the story line with an informational statement:

I'm the Police and there are the jail people. Oh no, I've got to get those jail people. They've gotten my money again." (p.1,l.10-17)

The third girl, "As", comes and goes from the play, wanting badly to be included, but often being ignored by the pair.

The participants of this episode negotiated the individual power/control through the dramatic play sequence. "H" in real life was the most valued female class member. She did not actively pursue her peers and was willing to play with any or all children. "Bv" enjoyed playing with "H". "Bv" wanted to dominate "H" 's play and tried to isolate her from the others. In real life "As" was a late arrival to this kindergarten class, entering school several months into the year. Her entrance caused a shifting of the established social group. "Bv" felt threatened by "As". "Bv" directed the initial dramatic play action away from

"As". "As" was frustrated by "Bv"'s action and remarked:

"I hate this!" (p.1,l.46)

"Bv" asked "As" for the toy kids she had. "Bv" repeated the request including a rhythmic sing-song chant and body movement. The addition of the chanting and body movement created a feeling of power on the part of "Bv":

"Give me the kids!" (p.1,l.48,42,p.2,l.03)

After a third request, "As" evenly distributed the toy kids between "H" and "Bv". Fairness was the issue later on in the episode as kids were again the center of a dispute.

"H" "Well. I need two. You got two and she's got two and I've got one. It's not fair!" (p.6,l.10-12)

"Bv" turned to "As" and remarked:

"Now let her or you're not going to come to her birthday!"(p.6,l.29-30)

"As" replied [to "H"] "Please." (p.6,l.34)

["H" shakes her head "no."] (p.6,l.34)

"As" [to "Bv"] "You can get another one from in there [the jail]." (p.6,l.36-37)

"Bv" [to "As"] "No, I can't." (p.6,l.39)

"H" "That's not fair." (p.6,l.41)

["H" and "As" have walked toward the block shelf. "H" puts her hands on her hips and begins to count.] (p.6,l.43-46)

"H" "One. [points at "As"] (p.6,l.48)

"As" [to "H"] "I'm pickin' which one I'm going to give you." (p.6,l.50-51)

["As" hands "H" one Fisher Price kid] (p.6,l.53)

"H" "Thank you." (p.6,l.55)

The consequence of non-compliance by "As" was the loss of the real birthday party invitation at a later date.

During play, the girls, "Bv" and "H", moved the basic structure five feet across the play area, in a sweeping motion 180 degrees clearing other blocks out of the way. The pair roofed the jail with planks. Triangle-shaped blocks were placed at the corners as guard towers. After a missing toy kid was found by "Bv" on the block shelf, the jail roof was opened to place the kid inside. With this move, "H" remarked:

"No! Can't see with the roof." (p.5,l.47)

This remark triggered the freeing of all the jailed people.

"Bv" "Do you want them to get out?" (p.5,l.49)

As the pair continue to tell the story, changes in voice quality are used to identify characters who are not identified by physical toy or prop.

During this Episode, the microphone used in the taping fell from its place. The girls momentarily stopped the play and allowed the teacher to replace the microphone in another location. The dramatic play sequence continued around the chair the teacher had used to replace the microphone. "Bv" returned the dialogue, announcing:

"Bv" Sister, Oh, sister. I want my sister to come out. I want my children to come out. (p.7,l.07)

Identities and story line sequence were re-identified by the players.

"H" "I'm the policeman." (p.7,l.12)

"As" "Me, too. No! No!" (p.7,l.14)

"H" "They want to get in jail with their kids." (p.7,l.16-17)

"Bv" "We want to get in jail with their little kids. They they . . . We want to get in jail if they're goin' to stay in jail." (p.7,l.19-22)

With identities and sequence re-established, the movement used to open the roof of the jail triggered the continued play:

"H" "Then they had to get out." (pg.7,l.27)

"Bv" "Because they let them out. They wanted to get out." (p.7,l.29-30)

"Bv" continued the sequence with the announcement:

"Bv" "Now the police were going somewhere else."(p.7,l.37-38)

This announcement triggered the conclusion of the episode as "H" extend the sequence:

"H" "The big gate was still around. The police fell asleep. I'm not the policeman anymore." (p.7,l.40-43)

The story line was concluded with an exit, which mirrored the initial action of the episode.

[Bv replaces the kids into their cars. The kids are then selected for the airplane ride.] (p.7,l.47-49)

Episode 3 ended with the statement by "Bv":

"The police were the bad guys, They were. They fell asleep and forget all about 'em." (p.8,l.03-05).

With this concluding statement the episode ended.

Episode 4 "Battle Station Boat" [An episode involving judgment]

Episode 4 returned "B" and his real life close friend "D" to the block center to build a structure which was different from "B" 's favorite "Battleship" from Episode 1. "D" wanted to do

something else while at the same time spend time with his friend. The episode demonstrated that boys could direct the attention away from other players as had been done by the girls in Episode 3. Joining "D" and "B" was "M" whose many suggestions were deflected by "D":

> "M" "I know. It could be a space warship like it's a . .."(p.1,l.26-27)

"M" was willing to follow "B" 's lead and expand his and "B" 's idea of submarines:

> "They could go like this as they go and they could take this other thing off." (p.1,l.31-33)
>
> ["D" appears and begins talking to "B" in the midst of "M" 's description.] (p.1,l.35-36)

The representation is two parallel structures: "B" 's "up high base" and "D" 's lower, square design similar to the jail in Episode 3. The boys struggled to agree on the type of structures to build and finally agreed to be build different ones. It appeared mature on their parts to be able to play together while allowing their individual differences to exist.

> "D" "You know what, "B", you want to make to make a ship attached to it?" (p.1,l.48-49)
>
> "B" "Sure." (p.1,l.51)
>
> "D" "Alright, "B". Let's get started on it." (p.1.,l.53)

The structure was decided and designated by a negotiated compromise.

> "D" "Hey you want to make a battle station?" (p.3,l.32)
>
> "B" "Maybe. First I want to make a boat. Then a battle station next to it. (p.3,l.34-35)
>
> "D" "No, how about a battle station boat? Do you know what a battle station boat is?" It is a battle-boat. A battle boat

is just like a...(p.3,l.37-40)

Other children appeared on the scene. "M" and "A" come and go throughout the episode, wielding power through the support or withholding of support they provided the participants. "D" was able to control the attention of "B", eliminating the other boys from the play area, while paying a price for his action later. "A" appeared to hold influence over this pair of builders as his opinion was asked for in judging the structures, although neither he or his opinion were appreciated, by "D". "A" acknowledged "B" 's design as good, while discouraging "D" with the remark that his design was not good. "M" reappeared, and when given the opportunity to judge the structures, found "D" 's good. The power demonstrated by these secondary players provided the primary builders the assurance of their value as individuals as well as competent builders.

Episode 5 "Flap-Jack" [An episode involving taking turns]

The story line of Episode 5 involved understanding something of the principle of levers. The boys, "D" and "B", constructed a square of thick planks while using a thin plank as the mechanism for the lever.

[As "D" reaches over to put an object on "B" 's end of the plank, "B" pushes down on the plank causing the object to fly straight up in the air. The action delight "B". He laughs.] (p.2,l.27-33)

"D" tried to continue the play:

"Look what I'm doin'. No! I'm going to flap it "B", not you. (p.2,l.44-45)

["D" makes the attempt. He remains in the same seated location. He stretches across the structure. Using less force, given his position, the object's flight is less successful than "B" 's previous attempt.] (p.2,l.49-54)

"B" judged "D" 's attempt and rated it unsuccessful:

"No. No work. My turn. (p.3,l.03)

"D" wanted to try again:

"OK. Let, let me try." (p.3,l.05)

["D" tries again, This time he changes hands, but not his body position. The result is the same.] (p.3,l.07-09)

"D" made a plea to "B":

"No, "B". You, if you do it. I just, I just have to get to do it, "B". Don't get to do it two times. Only if you can't do it the first time. Then you get to, "B". (p.3,l.14-18)

Although "D" had made a logical plea for variation in the traditional cultural pattern of taking turns, his action demonstrated the end of his knowledge construction.

"B" paused following "D" 's plea, only to hear "D" remark:

[There is a momentary pause.] (p.3,l.20)

"D" "Flap, :"B". Flap Jack!" (p.3,l.22)

Given the cue, "B" continued the traditional play:

["B" hits the plank. The object flies into the air.] (p.3,l.24-25)

The episode ends with a reaction from the teacher which signal to the children a variation in the classroom procedure.

[The object lands near the teacher. The children wait for a response from the teacher. A whistle, as if to say, "Wow!" is heard. The boys smile in the direction of the teacher. She is not visible.](p.3,l.27-32)

"B" 's response to the teacher was: "Yeah." (p.3,l.34)

The ending of the episode was due to the scheduled arrival of an

educational specialist.

Episode 6 "The Gun" [An episode describing fitting in]

In the second semester of the school year, a new student, "S" joined the class. In her attempt to break-in to the group, the story line of her block play was strikingly different from anything previously done. "S" constructed a gun from a tower of twelve square blocks. She raised the tower between her arms to a chest high position and operated it in a manner which resembled a semi-automatic weapon. As she fired the gun, a block would fall to the floor. The sound of the block hitting the floor gave power to the design and triggered the response by those boys who chose to respond. "S" fired the gun into an existing block construction. The majority of the boys turned to identify the event and fell to their backs, as if dead. A single boy, "B", raised his hands as if to beg for mercy. When "B" did not fall back, "S" said that "B" should follow the others.

"S" directed the boys to act in the expected manner:

"You got shoot so you have to lay down." (p.2,l.12)

"B" reminded "S" of a possible variation:

"If you stick you hands up that ..."(p.2,l.14)

"S" rejected "B" 's response:

"I still shooted you." (p.2,l.16)

"A" called to "Br" telling him:

"Hey, "Br", "S" shot me. Hey, ya'll "S" shot me." (p.2,l.24-25)

"A" reminded "S" that when guns are fired bullets are lost from a

chamber:

"A" [to "S"] "Take one off." (p.2,l.36)

["S" drops one block from the tower between her arms. The boys all laugh.] (p.2,l.41-42)

["S" reloads her gun and fires again. This time many blocks fall from her arms. All the boys react with great laughter. No boys respond by falling on their backs.] (p.2,l.44-47)

Laughter was as much a part of this episode as the shooting. The children did not appear to take seriously the traditional intent of the dramatic play. The boys appeared to react in a playful manner to the sequence in this episode. "S" had an older brother and it appeared that prior experience with boys had been useful in establish her as a competent player.

Discussion

As viewed from the dual perspective of teacher/researcher, domains which emerge from the observed Block Construction including: Social Interaction, Negotiation, and Scheme Development. Each of these domains reflected the development of this particular group of children's ability and motivation to work cooperatively toward a desired goal.

From the Teacher's Perspective

As part of the organized public school environment, the teacher was to provide experiences found in the curriculum content areas which are suggested in the state Course of Study. The teacher met those goals by utilizing small group

instructional methods, which also permitted large blocks of time for flexible use. Center time allowed for student choice in their activity during this instructional period. To the teacher, the block center was a popular choice at center time, but not a focus of "learning"--though it was meant to foster the children's creativity and ingenuity. The teacher had deliberately set up the classroom to insure mixed gender interaction in the center areas, assuming that traditional patterns of male domination and sex-role stereotyping would be eliminated in this way. At first, the teacher had no idea that anything more significant was occurring in the classroom than what was intended by the curriculum.

From the Researcher's Perspective

It became obvious to the researcher, that this classroom had at least two forces actively at work. One was the delivery of the traditional curriculum material, the other was the fostering of social interaction and the flowering of children's skills and character traits free from teacher direction. In the six episodes of this study, no themes were directly related to the curriculum content. The children held this center for themselves. Although each episode was unique, most episodes demonstrated traditional sex-role identities (Pitcher & Schultz, 1983) and gender segregation or male dominated play. Only the first and last episodes had mixed genders. The first was male dominated in theme and activity. Only the final episode reversed the pattern of male domination, and in that the girl acted out a traditionally male

oriented theme which the boys accepted. If the teacher wanted to change the traditional pattern of play, some external influence, such as teacher modeling, would seem to be necessary.

The strong personalities of several class members required the other children to further develop their ability to negotiate and socially interact in order to achieve satisfaction. The numbers of girls and boys (5 and 8) in the class made social groupings difficult. Given the small number in the group, hurt feelings were often possible because acceptable alternative companions were not readily available. The teacher encouraged the children to work out their problems among themselves. Given this hands-off approach, the children were forced to use their powers of persuasion, negotiation and social status to resolve problems.

Language development was an active play of the block center. The children played with words: rhyming of words, basic verbalizations used as words, and songs were part of the play. The children listened carefully to their peers and encouraged each other through the repetition of enjoyable language patterning. Grammar approximations were part of the conversations which children accepted and easily responded to. The children were able to extend their conversations using questions and answers which permitted give and take. The teacher's willingness to have children talk permitted them to refine and practice the art of conversation and communication. This aided all of the children especially those in speech therapy who were active in the block center activity.

This was a newly established classroom within the school. Although the teacher was able to gather many materials, the cost of wooden blocks made expanding the center difficult. She bought 100 more blocks to expand the center to over 300, but the size of the collection could have been larger. The children had not worked with blocks in preschool/daycare settings and the block play went through most of the stages suggested by Pratt (1948) as the children developed their skills. The teacher did make an effort to permit time for those children who did not initially choose block play by calling "time-out" from block play for those who had play the day before once building partners were established. Allowing all the children access to the center expanded the number of building partners seen as competent by their peers. Observers were often seen nearby, showing interest in the day's construction.

Censorship was not practiced by the teacher or by the children in the block center. All subjects were open to construction. The open policy permitted children to extend their understanding of their chosen themes. In each episode the children demonstrate their understandings of the subject reflecting their approximations toward reality. From a battleship, garage, jail, and gun the children dramatically play through a host of unrealistic possibilities with glimpses of the actual nature of the subject. It was the teacher's willingness to allow the plot to take turns which might not be permitted by other teacher's that permitted the children to reach different

conclusions. By allowing the boys to participate in "Garage" 's scene with the "Runaway Car", the children were able to observe the integrity of building structures when hit by flying objects.

The children in the class knew how to act in a group setting. They often looked to the teacher for reassurance and acceptance of their play and behavior. It was the teacher who permitted the children to include some otherwise questionable aspects to their play. When asked, the teacher said it was the small number of children in the class and their ability to be careful which allowed her to permit variations in traditional classroom play behavior. Had the teacher been unwilling to let the children play in a manner of their choice, the resulting episodes would have been very different leading to very different results.

Results

The results of this study are reported as the conceptual maps of each of the domains of the Typology of Block Play including: Block Construction, Social Interaction, Negotiation and Scheme Development. The analysis of play dialogues has been previously identified by Kessel & Goncu (1984). Each map (Figures 1-4) reflects an aspect of block play found at least once in the transcripted episodes of this kindergarten class. Differences in mapping of these domains are possible with other groups, given the limited number of episodes and children found in the class.

According to Hirsch (1984), block play can make

contributions to all curriculum content areas. Within each of these episodes, the curriculum opportunities were present. Given the nature of the Course of Study for Kindergarten, most curriculum content is rudimentary. Each episode demonstrated a higher level of sophistication on the part of the children. The interest of the children was generally found in more complex and difficult material than that expected by the Course of Study, as will be illustrated by two episodes.

In Episode 1, the children built a battleship and dramatically played out the avoidance of submarine attack. The content of the Course of Study could be matched to the social studies area of transportation where young children learn about basic means of transportation. This battleship is a means of transportation. The airplanes which the children had landing on the deck would also be found in this basic form of transportation while the submarine could be identified as an invisible means of transportation since it would be found under the water. These children not only identified these three forms of transportation, but also demonstrated an understanding of the purpose of these differences in time of conflict. The children already show a greater understanding of these modes of transportation than the Course of Study requires. However, if more were required to be taught about ships or planes, this would have been an excellent opportunity to initiate further study.

In Episode 2, the boys built a "Garage" which is part of the social studies content called Community. The children

demonstrated knowledge of the distinction between garages at their homes and community parking structures. The children discussed the differences between the two kinds of garages during their play. The Course of Study in Kindergarten is primarily concerned with basic identification of objects and not purposes of use. These children demonstrated an understanding of both already, thus exceeding the requirements of the Course of Study.

The first two episodes, from tape segment 1, were completed before Thanksgiving. The episodes led the researcher to acknowledge that the children came to school with these understandings and they were not gained through school experience. However, these two episodes could have been used by the teacher to extend the knowledge of the children in these areas, for example by leading the students to better conceptualize landing needs of most jet planes, specifically runway areas, which were missing from the "battleship" deck. Discussions could have juxtaposed space needs for airports and clearance from tall buildings similar to a parking garage. Further, in such a small class, although small numbers of children played these episodes it was unlikely that the other class members were unaware of the content of the play, making general class exposure to the material highly probable.

The sample of this study was composed of thirteen white middle-class children from two parent homes in the suburbs of a large southeastern city. Children from different backgrounds would presumably construct content material familiar to them,

which may be quite different from these described. The research suggests that each group of children would uniquely construct content material which they come to school possessing. The educational ramifications would be the same for children from any socio-economic group. Through "kid-watching" of these constructions, the teacher could more adequately determine the curriculum interests of any specific group of children, and use them to teaching advantage in ways that would be developmentally appropriate.

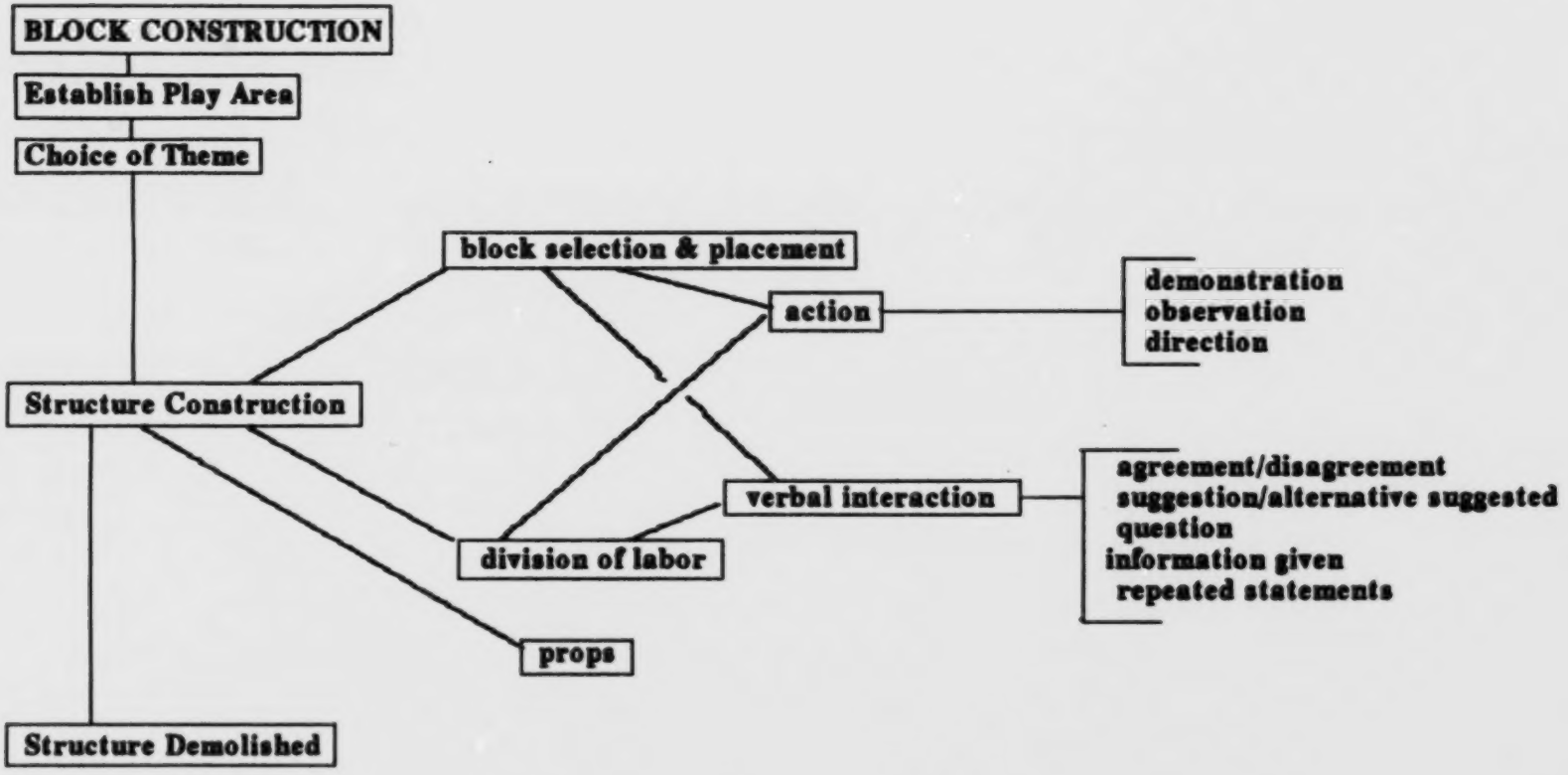

Figure 1 Typology of Block Play: Block Construction

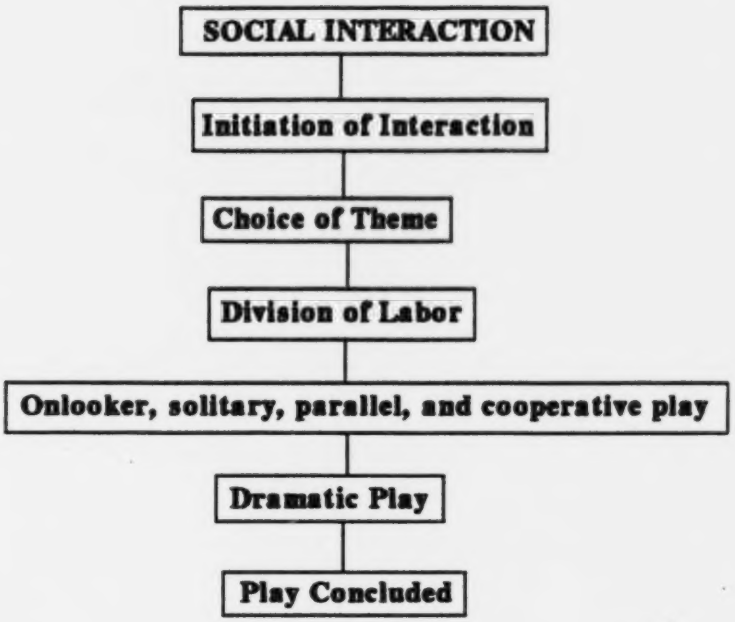

Figure 2 Typology of Block Play: Social Interaction

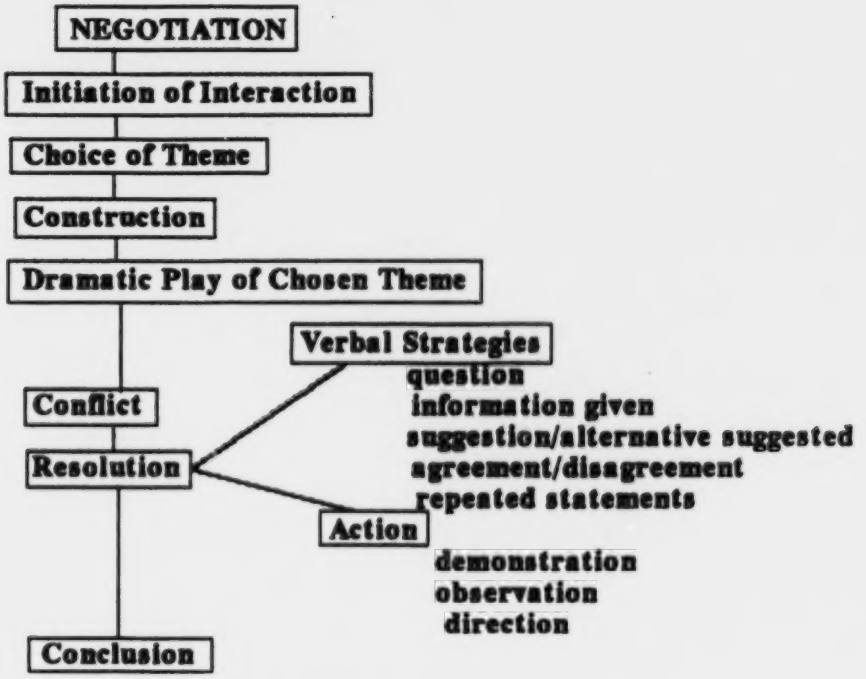

Figure 3 Typology of Block Play: Negotiation

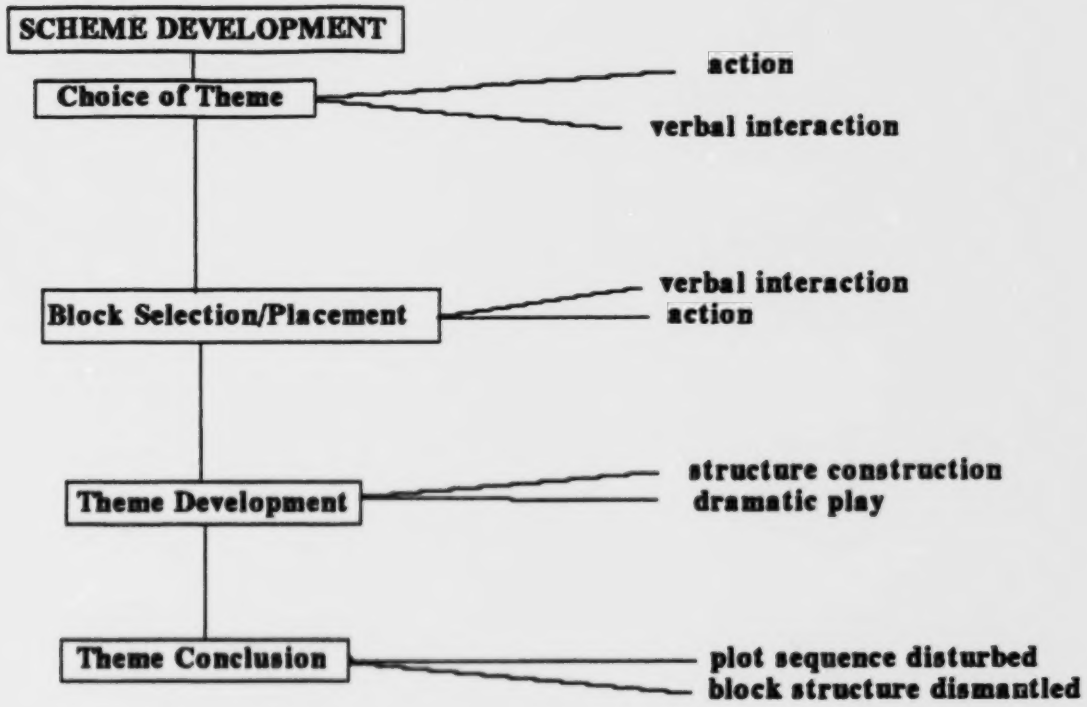

Figure 4 Typology of Block Play: Scheme Development

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